Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Bear Creek Storage Facility
Southern Natural Gas Company
Bienville, Bienville Parish, Louisiana
Agency Interest Number: 4042
Activity Number: PER20090001
Proposed Permit Number: 0360-00010-V3

I. APPLICANT

Company:
Southern Natural Gas Company
195 State Highway 504, 4 Box 625
Natchitoches, LA 71457

Facility:
Bear Creek Storage Facility
10275 Highway 507
Bienville, Bienville Parish, Louisiana
Approximate geographic coordinates: 32 22 26.25 Latitude, 92 56 33.35 Longitude

II. FACILITY AND CURRENT PERMIT STATUS

Southern Natural Gas Company, a division of El Paso Corporation, operates the Bear Creek Storage Facility, an existing natural gas transmission facility. The Bear Creek Storage Facility began operation in February 1981 and currently operates under Part 70 Operating Permit No. 0360-00010-V2 issued on January 21, 2009 and Permit No. PSD-LA-85 issued on March 22, 1979 and modified on January 16, 1981.

Southern Natural Gas Company (SNG) is a transporter of natural gas from production fields located in Texas and Louisiana to markets in the Southeastern portion of the country. Located along the transmission pipeline are stations that recompress the gas.

The function of the Bear Creek Storage Facility is to either inject natural gas into underground formations for storage during periods of low demand or withdraw the natural gas for transmission during periods of high demand. Compressors, driven by natural gas-fired engines, compress natural gas for either injection or transmission depending on the seasonal demand. Natural gas is stored in underground formations. The actual pressure of the natural gas in these formations varies as the seasonal demand for natural gas varies. In general, the natural gas is injected in summer and withdrawn in

the winter. If the pressure of the natural gas in the underground formations is high, the pressure drop during the withdrawal process can cause the temperature of the gas to decrease. This temperature variation causes condensation and freezing of condensable vapors in the gas. The facility's withdrawal heaters are used to maintain gas temperature above the freezing point of the liquids.

The facility's three (3) 300 million cubic feet per day (MMCFD) capacity dehydration and hydrocarbon recovery units each consists of four drying towers, flash separators, and associated coolers and compressors. The towers are packed with solid desiccant beds of resin supported on a grated screen and gravel. The resin absorbs water as the gas stream passes through the bed. When the resin becomes saturated with water, the gas stream is switched to another dryer tower while the first tower's resin is regenerated, which is accomplished by heating the resin to evaporate, condense, and collect the absorbed water. The necessary heat is supplied by the three (3) regenerative heaters.

The facility's six (6) 54,600-gallon condensate storage tanks are utilized to store condensate liquid extracted during the natural gas storage. The source of the condensate liquid is the depressurization of natural gas in the natural gas storage. Condensate from the condensate storage tanks is periodically offloaded onto tanker trucks for transportation offsite. Similar to the condensate storage tanks, the four (4) 54,600 gallon saltwater storage tanks store saltwater that is removed from the natural gas stream during injection and withdrawl.

Bear Creek Storage Facility is a designated Part 70 source. Only one Part 70 permit has been issued to the entire facility

In addition, PSD Permit PSD-LA-85 (issued on March 22, 1979 and modified on January 16, 1981) was also issued to the facility.

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application dated September 25, 2009 was submitted requesting a renewal and reconciliation of its Part 70 operating permit for the Bear Creek Storage Facility. Additional information dated October 23, 2009 and December 9, 2009 w as also submitted.

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Proposed Permit

Permit No. 0360-00010-V3 will be a renewal and reconciliation of Part 70 Operating Permit No. 0360-00010-V2 for the Bear Creek Storage Facility.

In this Part 70 Operating Permit, Southern Natural Gas Company requested the following:

1. To renew its Part 70 Operating Permit for the Bear Creek Storage Facility.

2. To remove the authorization to install NO_x reduction technology on its four reciprocating compression engines as approved in Permit No. 0360-00010-V1 issued on October 10, 2006. This project was a voluntary project which was expected to enhance the mixing of the fuel and air in the cylinders of the engines prior to combustion, resulting in an anticipated increase in fuel efficiency, a reduction in NO_x emissions, and a decrease in maintenance costs. Due to unforeseen technical issues, the project was never implemented and the authorization to install the technology expired. This permit will reflect pre-project emission rates.

3. To correct the volume of Saltwater Tank No. 7 from 10,000 gallons as listed in the Inventories Section of the TEMPO report to 54,600 gallons.

4. To remove the 4.5 MMBTU/hr boiler from the Insignificant Activity list; this boiler was installed at the adjacent SNG Bienville Compressor Station and has been reflected in that facility's Title V permit.

5. To correct the capacity of the 3.5 MMBTU/hr boiler, as listed in the current permit, to 3.0 MMBTU/hr.

6. To remove the 60 gallon scrubber oil tank from the Insignificant Activity list; this tank was removed from the facility in 2003.

7. To add an ethylene glycol storage tank, an oily water storage tank, and several small combustion sources to the Insignificant Activity list.

8. To update the General Condition XVII list.

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Permitted Air Emissions

Estimated emissions in tons per year for the Bear Creek Storage Facility are as follows:

Pollutant	Before	After	Change
PM_{10}	59.89	59.84	- 0.05
SO_2	0.90	0.91	+ 0.01
NO_X	2559.81	3188.79	+ 628.98
CO	424.62	423.71	- 0.91
VOC *	201.75	201.67	- 0.08

*VOC LAC 33:III.Chapter 51 Toxic Air Pollutants (TAPs):			
Pollutant	**Before**	**After**	**Change**
Benzene	0.295	0.321	+ 0.026
Ethyl Benzene	0.355	0.503	+ 0.148
Ethylene Glycol	0.322	0.322	-
Formaldehyde	81.319	65.398	- 15.921
n-Hexane	1.314	1.569	+ 0.255
Toluene	0.718	0.835	+ 0.117
Xylene	1.788	2.149	+ 0.361
Total	86.111	71.097	- 15.014

Other VOC (TPY)		130.57

IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

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Applicability and Exemptions of Selected Subject Items

ID No.	Requirement	Note
UNF001 Entire Facility	LAC 33:III.Chapter 51 – Comprehensive Toxic Air Pollutant (TAP) Emission Control Program	**EXEMPT.** Combustion sources combust natural gas, a Group 1 virgin fossil fuel. [LAC 33:III.5105.B.3.a]
EQT002 – EQT007 Engines	40 CFR 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion (IC) Engines	**DOES NOT APPLY.** Engines were installed prior to June 12, 2006 and manufactured prior to July 1, 2007. [40 CFR 60.4230(a)(4)]
	40 CFR 63 Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating IC Engines	**DOES NOT APPLY.** Engines are existing two stroke lean burn stationary reciprocating IC engine. [40 CFR 63.6590(b)(3)]
EQT017 – EQT022 Condensate Storage Tanks	LAC 33:III.2103 - Storage of VOC	**EXEMPT.** Tanks store condensate in Bienville Parish and have volumes less than 420,000 gallons. [LAC 33:III.2103.G.1]
	40 CFR 60 Subpart Ka – Standards of Performance for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978 and Prior to July 23, 1984	**EXEMPT.** Tanks store crude oil or condensate prior to custody transfer and have volumes less than 420,000 gallons. [40 CFR 60.110a(b)]

New Source Review (NSR) - Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR)

In this Part 70 Operating Permit renewal and reconciliation, Southern Natural Gas Company is not proposing any physical or operational modifications to the facility. As such, there are no actual emissions increases associated with this permit. The increase in permitted NO_x emissions is from the removal of a NO_x reduction technology project that was approved in a previous permit, but was never implemented; the permitted increase in NO_x reflects pre-project emission rates. Other changes in emissions are the result of using updated emission factors when performing emissions calculations and including hazardous air pollutant (HAP) emissions which were inadvertently omitted during the last permit modification. In addition, the Bear Creek Storage Facility is located in Bienville Parish which is in attainment for all regulated pollutants. As such, New Source Review (NSR) regulations do not apply.

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Air Quality Analysis

Emissions associated with the proposed facility were reviewed by the Air Quality Assessment Division to ensure compliance with the NAAQS and AAS. LDEQ did not require the applicant to model emissions.

Dispersion Model(s) Used: <None>

Pollutant	Time Period	Calculated Maximum Ground Level Concentration	Louisiana Toxic Air Pollutant Ambient Air Quality Standard or (National Ambient Air Quality Standard {NAAQS})
< N/A >			

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

Southern Natural Gas Company did not request a permit shield in this permit action.

VI. PERIODIC MONITORING

Periodic monitoring is required for selected emission sources. Refer to the Specific Requirements section of the TEMPO permit for periodic monitoring requirements.

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VII. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide (H_2S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_X) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: $\geq$ 10 tons per year of any toxic air pollutant; $\geq$ 25 tons of total toxic air pollutants; and $\geq$ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10} – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO_2) – An oxide of sulfur.

Sulfuric Acid (H_2SO_4) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.